BEFORE THE FEDERAL COMMUNICATIONS COMMISSION

In re Broadband Over Power Line Systems	)	
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	)	Proceeding No.s 03-104 and 04-37
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COMMENT

This comment is submitted in reply to the Commission's Notice of Proposed Rule Making regarding Carrier Current Systems, including Broadband over Power Line Systems ("BPL") adopted on February 12, 2004.

Interference from power lines is an existing problem, and authorizing BPL will only make it worse. The nation's power lines, though designed to be transmission lines at 60 Hertz, are typically installed on supporting structures ranging from power poles of 40-60 feet or higher, and often radiate far outside their intended band causing harmful interference to other essential communications services regulated by the Commission, in part because many lines and their connecting hardware and ground-systems have decayed. In effect, the lines serve as radio antennas, easily demonstrated by driving beneath power lines while listening to a vehicle's AM radio.

BPL Interference

The National Telecommunications and Information Administration, American Radio Relay League and other organizations have conducted tests which

clearly demonstrated the potential to cause interference to licensed services, including shortwave broadcasting, homeland security, safety-of-flight communications with commercial aircraft, military data-links and voice communications.

Power line interference affects the spectrum below 30 MHz (HF) where existing authorized operations include fixed, land mobile, aeronautical mobile, maritime mobile, radiolocation, broadcast radio, Amateur Radio terrestrial and satellite, and radio astronomy. Power line interference also affects the spectrum from 30 to 300 MHz where existing authorized operations include fixed land mobile, aeronautical mobile, maritime mobile and mobile satellite, radio astronomy, Amateur Radio terrestrial and satellite, broadcast TV and radio. This spectrum is also used for public safety and law enforcement purposes, and for federal government aeronautical radio navigation, radio navigation satellite and radiolocation purposes.

BPL interference will disrupt existing authorized services. Disruptions will seriously affect *law enforcement, public safety*, and *Amateur Radio* communications, existing regulated services that have been the backbone of the nation's disaster and emergency response capabilities for decades. The ability of these services to operate without the harmful interference caused by power line radiation is essential in a post-9/11 era in which our nation is the subject of recurring, valid threats from terrorists. Each of these authorized services must be protected from harmful interference created by BPL if the Commission-endorsed mission of each service is to be fulfilled responding to emergencies of any kind.

The Commission's Enforcement Bureau is well acquainted with the issue of power line radiation interference to the Amateur Radio service and takes the issue seriously. The Enforcement Bureau has, for many years, dealt with power line interference complaints and compliance issues arising from power line interference to a broad range of regulated services, including public safety and Amateur Radio services. Thus, based solely on many such complaints received by the Commission it is well established that power line interference is a recurring, harmful problem. Under existing well-grounded regulations, such interference is prohibited. See 47 C.F.R. §§15.5, 15.13, 15.15 (2003). BPL is known to cause interference with Amateur Radio HF communications practiced daily by several hundred thousand Amateur Radio operators in the United States[1] and during times of emergency in service to this nation. Furthermore, complaints received by the Commission concerning interference to consumer electronics products are legion. Deployment of BPL would likely result in countless instances of interference to consumer electronic goods used in households (e.g., home entertainment devices such as televisions, video cassette and DVD players) which, as the Commission well knows, are insufficiently shielded by device manufacturers to block outside interference. Interference from the BPL test site in Raleigh, North Carolina is documented. In fact, the operator of the Raleigh test platform, Progress Energy Corporation ("PEC") has admitted causing interference, declares without any factual basis that the interference is not a problem for the licensed service, and intends to do nothing about it:

[1] BPL interference in the border areas of the United States would likely cause interference to existing regulated services in neighboring countries, e.g., Canada and Mexico.

> It is PEC's position and interpretation of the FCC's rules with regard to 'harmful interference' that any interference that may still exist is not 'harmful' as that term is defined by the FCC's rules. This level of interference does not seriously degrade ham radio operation or transmissions or cause repeated interruptions.

Letter from PEC attorney Len Anthony to the Commission's Experimental License Branch. A utility's declaration that it will determine the level of interference mitigation, not the Commission, does not bode well for other licensed services that will affected by BPL interference.

Commission Investigation

The Commission should bar deployment of BPL under existing rules and forego changes in other Part 15 rules to further authorize BPL unless scientifically sound research commissioned by the Commission (not research offered only by commercial interests that support BPL and their paid experts or commercial) demonstrates that BPL will not interfere with existing services.

If BPL is to be authorized, the Commission should adopt regulations to require BPL providers to immediately cease operation if the interference cannot be eliminated after ten (10) days until such time that the interference is eliminated. Further, the Commission should expressly authorize private rights of action against power line owners and BPL providers for violations, and include penalties against BPL provides and power line owners for failure to address interference complaints and provide for the award of treble damages, attorney fees and court costs where a BPL provider knew or should have known that it has interfered with another service or fails to cease transmission of an interfering BPL signal after 10 days.

On information and belief, Japan abandoned its bid on BPL, in part, because of the interference issue, a city in the Netherlands received a high number of interference complaints during a BPL-type experiment, and the documented *and admitted* interference from the Raleigh test platform should be closely studied by the Commission, and stringent regulations adopted for BPL operations prior to implementation of BPL services.

Conclusion

BPL presents a great potential for harmful interference to existing authorized public service communications. Although the goal of delivering broadband services to rural America is laudable, BPL is not the appropriate vehicle for delivering broadband services. Existing delivery services from a variety of suppliers (cable systems and satellite delivery) are available to rural consumers at modest prices. The Commission should not move forward with BPL without carefully and thoroughly studying the potential problems BPL will cause, based on *independent*, non-biased scientific research grounded in good engineering practice.

Respectfully submitted,

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